□□□□□□□□□□□□□□□□□□□□□□□

□□ □□□

□□□

□□

□□□□ leukotomy □□ [1]□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□ The Third Wave，by Alvin Toffler□□□ Total Quality Management □□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□ leukotomy □□

□□ The Third Wave □□

□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□: to be "a leader to the Greeks and a despot to the barbarians, to look after the former as after friends and relatives, and to deal with the latter as with beasts or plants"□□□□□□□□□□□□□□□□□□□□□□□□□

□□□

□□

□□□

□□□

□□□

□□□

□□ [2]□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ leukotomy □□

□□Leukotomy □□□□□□□□□□□□□□□□□□

Leukotomy □□□

1□□□□□□□□□□□□□□□□ personalities □ mental diseases□

2□□□ leukotomy □□□□□□□□□□□□□□□□□□□ leukotomy □□□□□□□□□□□□□□□□□□

3□□□□□ personality □ intelligence □□□□□□□□□□□□□□□□ Walter Freeman □□□□□□□□□□□□□□□□□□ personality □ intelligence □□□□□□□□□□□□□□□□□□□□ [3]□

□□□□□□□ personality □ intelligence□□□□□□□□ personalities □ mental diseases□□□□□□□□□ personality □ intelligence □□□□□□□□□□□□□□□ personality □ intelligence □□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□ personality □ intelligence □□□□□□□□□□□□□□□□□ personalities □ mental diseases□□□□□ □□□□□ personality □ intelligence □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

Leukotomy □□ □□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□ Turing Test □□□□□□□□Nature □ AlphaGo Zero □□□□□ superhuman □□□□□□□□□□□□□□□ superhuman □□□□ generic □ human□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

Leukotomy □□□□□□□□□□□□□□ Nature □ AlphaGo Zero □□□□□ superhuman □□□□□□□□□□□□□□□□□□ □□□□ peer review □□□□□□□□□Peer review □□□□□□□ [4]□

□□□□leukotomy □□ □□□□□□□□

□□AlphaGo Zero □ Superhuman □□□□□□□□□□□

Nature □□□□□ AlphaGo Zero □□□□□□□ AlphaGo Zero □□□□ superhuman □ performance□□□ superhuman □□□□□□□ generic □ human□□□□□□□□□□□□□□□ superhuman □□□□□

AlphaGo Zero □□□ AlphaGo Master □□□□□ superhuman □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□ generic □ superhuman □□□□□□□□ game □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□

□□ game □□□□□□□□□□□□□□□□□□□□ superhuman □□□□

□□□□□□□□□□□□ AlphaGo Zero □□□□□□□□ superhuman □□ AlphaGo Zero □□□□□□□□□□□□□□□□□□□

□□□□AlphaGo Zero □□□□□□ superhuman □□

□□□ Deepmind □□□ [5]□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

AlphaGo Master □□□□□□□□□□□□□□□□□□ AlphaGo Master□□□□□□□AlphaGo Master □□□ AlphaGo Zero □□ AlphaGo Master □□□□□ AlphaGo Master □□□□□□□□□□□□□□□□□

□□□□ AlphaGo Zero □□□□□□□□ AlphaGo Master □□□□□□□□ AlphaGo Zero □□□□□□□□□□□□[6]□□□□□□□□□□□AlphaGo Master □□□□□□□□□□□□□□□□ 16 □□□□□□□□ AlphaGo Zero □□□□□□□□□□□□□□ 18 □□□□□□□□ AlphaGo Zero □□□□ 14□16 □□□□ 45 □□□□□□□□□□□□□□□□□□

1□□□ Nature Magazime □□□□□□□ AlphaGo □□□□□□□□□Deepmind □□□□□□□□□□□□□□□ AlphaGo Zero □ AlphaGo Master □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

2) □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ AlphaGo Zero □□□□□□□□□□□□□□□□□□ local trap□□AlphaGo Zero □□□□□□□□□□□□□ superhuman □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□ AlphaGo Zero □□ AlphaGo Master□□□□□□□□□□□□ AlphaGo Master □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ AlphaGo Master□□ AlphaGo Master □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ [7]□Nature □□□□□□ AlphaGo Zero □□□□□□□□□□□□□□□□□□ AlphaGo Master □□□□□□□□□□□□□□□□□□□□ deep-learning □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□AlphaGo Master □□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□ AlphaGo Zero [8]□□□□□□□□□□□□□□□□□□□ superhuman □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ AlphaGo Zero □□□□□□□□□

□□□□□ AlphaGo □□□□□□□ generic human □□□ Deepmind □□ AlphaGo □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ AlphaGo □□□ AlphaGo □□□□□□□□□□□□□□□□□

□□□ □□□□□□□□□□□□□□□□□□□□□□□□□□ AlphaGo □□□□□□□□ AlphaGo □□□□□□□□□□□□□□□□□□□□□□□□□□□□ [9]□□□

□□□□□□□□□□□□□ Turing Machine □□□□□□□□□□□□□□□□□□□ AlphaGo □□□ AlphaGo Zero □ AlphaGo Master□□□□□□□□□□□□□□□□□ AlphaGo Zero □ AlphaGo Zero □□□□□□□□□□□□□

□□□

□□□□□□□□□□□□□□□□

□□□□□□□:"Go gaming is strictly defined within a very small space. Industrial automations are typically designed in well controlled environments, but not strictly defined. Car driving is regulated, but the environment is not well controlled"□

□□

□□□□□□□□□□□□□□□ SAE level 5 □□□ SAE level 4 □□□□□□□□□□□□□□□□□□□□□□□□□□□ SAE level 4 □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ SAE level 4 □□□□□□□□□□□□□□□□□□□□

□□

□□□

□□

□□□

□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□

□□

□□□□□□□□"□□□□□□□□□□□□□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□

□□

□□□

□□

□□

□□ □□ [10]□□□

□□□

□□

□□□□□□□□ Turing Machine □□□ Universal approximation theorem □□□

□□□□□□□□□□□□□□□□□□□□□□□□□ Technological Singularity□□

□□□□□□□□□□□□□□□□□□

□□□

1949 □□□□□□□□□□ leukotomy □□□

Turing Test □□□□□□□□ AI□A Modern Approach □□□□□□□□□□□□□□□□□□□□□□□□□□ Wind Tunnel approach □□□□□□□□□□□□□□□□□□□□□□□□□□□□□ Nature □ AlphaGo Zero □□□□□□ superhuman □□□□□□□□□□□□□□□□□□□□□□□□□Technological Singularity□In Math We Trust□□□"□□□□□□□□□□□□□□"□□□□□ [11]□□□ [12]□

□□ Karl Popper □□

□□ [13]□

□□□Occam's Razor□□□□□□□□□□□□□□

Occam's Razor □□ Occam's Razor □□

□□

Occam's Razor……………………………………Leukotomy…………………………

………

………

………Gu Test（A Progressive Measurement Of Generic Artificial Intelligence）……………………………

…………………………………………

……………………………………………………………………………………

………………………………………………………………………………………………………

……… [14]。

…… [15]。

……………………………………………………………………… [16]………

……

……

………

………

……………………………………………………………………………………………………

………………………………………………

………………………………………………………………

 Chinese room

 dataset 、SQuAD、CoQA、QuAC、、 GLUE dataset Chinese room

NLVR^2（Natural Language for Visual Reasoning for Real）、 testset GLUE generic

 Testsets AI: A Modern Approach

 guideline 、judgement

 Chinese room

The Third Wave

 Total Quality Management

□□□

□□□□□□□

□□□□□□□□□ Leukotomy □□□□□□□□□□□□□AI: A Modern Approach□□

□□

□□□□□□□□□□□□□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□□□"□□□ AlphaGo Zero□□□□□□□□□□□□□□ AI: A Modern Approach □□ [20]□

□□□□□□□□□□□□□□ AI: A Modern Approach □□□□□□□□□□□□□□□□□□□□□□□□□AI □□□□□□□□□□□□□□□□□□□□ AI □□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□

□□□

□□□ Chinese room □□

□□□

□□□ [21]□

□□□

□□□

□□□□□□□□□□□□

1989 □□□□□□□□□□□□□□□□□□□□□"□□□□□□□□□□□□□□□□□"□□□

□□□□□□AlphaGo □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ [22]□□□□□□ Socratic □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□ 2015 □□□ Bohunt Chinese School □□□□□ BBC □ Are Our Kids Tough Enough ? □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□ 2012 □ PISA □□□□□□□□□□□□□□□□□□□□□□□□ 2015 □□ 2018 □ PISA □□□

□□□

□□Bohunt Chinese School □□□□□□□□□□□□□□□□□□□□□□□□□□□□ Bohunt □□□□□□□□□□□□□□□□□□□□□□ [23]□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□ PISA □□

Bohunt □□□□□□□□□□□□ Confucianism□□

□□ Bohunt □□□

□□□

□□

□□□□□□□□□□□□□□□□□□□□□□□□□□ discipline □ competition□□

Discipline □□□□□□□□□□□□□□□□□□□□□□□□□□□ Bohunt □□ Socratic □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□ competition□□

□□□□□□□□□□□□□□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□"□□ 2012 □□□□□□□□□□□□□□□

□□

□□□ [24]□

□□□ [25]□□Leukotomy □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□ Technological Singularity □□□□□□ AI: A Modern Approach □□□□□□□□□□□

□□□□□

□□□□□ Karl Popper □□

□□

□□

□□
□□□□□□□□□□□□□□□□□□□□

□□

□□
□□□

□ The Development of Liberal Arts and Sciences □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
□□□□□□

~~~~~~~~~~~~~~~~

[1] □□□□□□□□□□□□ AI: A Modern Approach □□□
□□□□□□□□□□□"Aristotle... was the first to formulate a precise set of laws governing the rational part of the mind."(On page 5)□

□□□□□□□□□□□□□□□□□□□□□□□ Wind Tunnel approach □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□

[2] □□
□□□□□□□□□□□□□□□□□□□□□□

□□
□□□□□□□□□□□□□□□□□□□□□

□□

[3] □□□□□ Leucotomy in England and Wales, 1942-1954□□□□□ 9284 □□□□□□41□□□□□□□□
□□□28□□□□□□25□□□□□□2□□□□4□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ personality □ intelligence□□□□□□□□ 25□□□□□□□□□□□
personality □ intelligence □□□□□□□□□□□□□□□□□□□□□□□□ clinical condition □□□□□□□□41□□□□□
□□□□□□ 28□□□□□□□□□□□□□□□□□ clinical condition □□□□□personality □ intelligence □□□□□□□□□□

□□□□leucotomy □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□ Renato M.E. Sabbatini □□□□□□□□Even lobotomy's preponents admitted that only one third of the operated patients would improve, while one-third remained the

same, and one-third got worst Leucotomy in England and Wales, 1942-1954 http://www.cerebromente.org.br/n02/historia/lobotomy.htm。

 one third would improve 和 one-third remained the same clinical condition personality 和 intelligence

 personality 和 intelligence leucotomy BRAIN Initiative

[4]

 peer review peer review

 AlphaGo Zero superhuman generic 的 human AlphaGo Zero

[5] Cracking Go Deep Blue AlphaGo AlphaGo

[6] http://www.alphago-games.com/，AlphaGo Zero AlphaGo Zero https://www.101weiqi.com/chessbook/player/38348/

[7] AlphaGo Master AlphaGo Master

[8] http://www.alphago-games.com/ Full Strength of Alphago Zero, i.e. Final Form 40 Blocks，20 Blocks Not Full Strength of Alphago Zero Alphago Zero

[9]

 AlphaGo Google AlphaGo AlphaGo Zero AlphaGo Human level artificial intelligence AlphaGo

[10] Universal approximation

theorem □□□□□□□□□□□□□□□□□□□ Turing Machine □□□□□□□□□□□□□□□□□□□□□□□□□

[11] In God We Trust □□□□□□□□□□□□ God □□ Trust□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□In Math We Trust □□□□□□□□□□□In Math We Trust □□

[12] □□□

[13] □□

[14] □□

[15] □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□

□□

[16] □□□

[17] □□□□□□□□□□□□□□□□□□□□□□□ 1819 □□□□□ Ferdinand Schweikart □□□

□□□□□□□□□□□□□□□□□□□□□□□ 1830 □□

□□□□□□□Ferdinand Schweikart □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

[18] □□□□·□□□□"□□□"

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

[19] □□□

□□

□□□

□□□

□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□ wikipedia □□□

[20] □□□
□□□□□□□□□□□□□□□□□□□□□□□

□□□
□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□"□□□
□□

[21] □□□

□□□□□□□ mainframe□□ personal computer□□ smartphone□□□□□□□□□□□□□□□□ smartphone □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□ IT □□
□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□"□□□□□□□□□□□□□"□"□□□□□□□□□□□□□□□□□"□□□□□□□□□□□□□□□□□□□□

□□□□□□□□"□□□□□□□□□□□□□"□"□□□□□□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□ 100 □□□□□□□ 100 □□□ 60 □□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□
□□□

□□□
□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□
□□□□□

□□□
□□□□□□

□□□

[22] □□"□□□□"□□
□□□□

□□□□□□□□□□"□□□□"□□□□□□□□□□□□□□□□□□□□"□□□□"□□□

□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□"□□"□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□"□□□

□□

□□

□□□□□□□□□□□□□"□□□□"□□□"□□"□"□"□□□"□□□□"□□□□□□□□□□□□□□□□□□"□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□"□□□□□□□□□□□□□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□"□□

[23] "□□·□□□ BBC □□□□□□□□□□□□□□"（http://shanghai.xinmin.cn/xmsq/2016/04/18/29861595.html）

□□□

[24] □□□□□□□□□"□□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□·□□□□□□□□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□"□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□

□□□

□□"□□"□□□□□□□□□□

□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□□"□□"□"□□"□□

[25] □□□

□□□